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To: Dave Dickerson/R1/USEPA/US@EPA

Delivered Date: 03/12/2008 09:55 AM EDT

Subject: FW: New Bedford Harbor CAD Cell Analysis

FYI

-----Original Message-----
From: Fredette, Thomas J NAE
Sent: Wednesday, March 12, 2008 8:29 AM
To: Schroeder, Paul R ERDC-EL-MS; Gailani, Joe Z ERDC-CHL-MS; Edris, Earl V ERDC-CHL-MS; Bailey, Susan E ERDC-EL-MS; Estes, Trudy J ERDC-EL-MS; Ruiz, Carlos E ERDC-EL-MS
Cc: Leitch, Robert A NAE; Mitkevicius, K C NAE; Kammerer-cody, Denise E NAE
Subject: New Bedford Harbor CAD Cell Analysis

Following our discussions yesterday here at NAE, the New Bedford Harbor EPA RPM, Dave Dickerson, is definitely interested in moving forward with NAE/ERDC conducting evaluation of CAD cell effectiveness (or the converse, estimating potential losses relative to the existing condition). Below is a synopsis of Dave's initial thoughts on this, but he is going to scope out a somewhat more detailed concept of what he sees as the need in the next week or two. From that we should be able to refine it into an initial scope of work.

Tom

[Hi - as I discussed with KC the other day, EPA is looking for tech. assistance re. evaluating CAD cell use for the harbor cleanup. At this point, the two issues that I see as needing modeling or some other kind of evaluation are:

1. Long term potential losses of PCBs from the CAD cells due to groundwater upwelling in and around the CAD cells to the river bottom.
I don't necessarily think this will be a significant issue (since the placed dredged material will likely be much more impermeable then the surrounding sand and gravel, especially over time with consolidation of the dredged material), but its just something that we have to evaluate and try to quantify. I think the conceptual model will be: pore water with PCBs gets "squeezed" out of the side walls and bottom of the CAD, and then gets picked up by the surrounding upwelling GW to the organic silts of the river bed. There the organic silts will likely further sequester PCBs prior to any further transport to the mudline/biological

layer as well as the water column. Perhaps some GW also travels directly through the CAD??

2. Losses of PCBs during placement into the CAD cells. Since we will be proposing a full perimeter sheetpile wall for the upper harbor CAD, and use of silt curtains for the lower harbor CAD, this shouldn't be a big issue either. But again, its something we need to try and quantify for the record. PCB losses potentially could take place via the "doors" in the sheetpile or curtain wall, or via "leakage" between the piles (they won't be completely water tight, correct?) or through the curtains.

The timeframe we're shooting for is to have this work finalized by say 5/1/09. That way we could incorporate the information into the FS by its due date of 7/1/09.]